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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/271,617	03/17/1999	ADAM J. CHEYER	SRI1P021	4388

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EXAMINER
BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/271,617	CHEYER ET AL.	
	Examiner	Art Unit	
	Lewis A. Bullock, Jr.	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12,14-21,23,25-28 and 39-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12,14-21,23,25-28 and 39-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 January 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because of Draftperson's Review. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-10, 12, 14-21, 23, 25-28, and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over FURUSAWA (US 6,338,081) in view of "Information Brokering in an Agent Architecture" by MARTIN.

As to claim 1, FURUSAWA teaches a computer-implemented method for communication and cooperative task completion between a community of distributed electronic agents (regular agents) and at least one other distributed component system (broker agent / facilitator agent), the other distributed component system including a component registry (broker advertise table /

facilitator advertise table) providing access to a plurality of distributed components (agents) registered therein, the method comprising the acts of: receiving from a bridge agent (broker agent) a description of functional capabilities of the components (service provider agents) registered in the component registry (register with the facilitator agent), the bridge agent being capable of translating between a dynamically expandable inter-agent communication language understood by the community of distributed electronic agents (ACL) and an incompatible protocol understood by the distributed component system; and adding to a facilitator registry (facilitator advertise table) of the community of distributed agents, in ICL format, a declaration of functional capabilities corresponding to the components registered in the component registry, on behalf of the bridge agent (register with the facilitator agent); (col. 13, lines 17 - col. 14, line 47; col. 14, line 60-64; col. 5, lines 46-65; col. 3, lines 1-15); responsive to an ICL request for service, delegating the request to the bridge agent; translating the delegated ICL request into the incompatible protocol; invoking one or more of the distributed components via the component registry and the translated request in the incompatible protocol (col. 15, lines 10-41; col. 5, lines 41-65). However, FURUSAWA does not teach that the request is an ICL sub-goal request.

MARTIN teaches the Broker agent delegates, translates, and relays the appropriate subqueries to the available source agents and then accepts the results and reintegrates them for return to the requester wherein each query that is translated to sub-queries is the same as a Prolog goal (pg. 7-8). It would be

obvious that when the query that is translated into sub-queries are sub-goals since the query is a Prolog goal (pg. 7-8). Therefore, it would be obvious to combine the teachings of FURUSAWA with the teachings of MARTIN in order to facilitate transparent access to a collection of information sources (pg. 8).

As to claim 2, FURUSAWA teaches the service request is generated by one of the components registered in the multiple component registry (message packet sent to the broker agent by the regular agent); and the steps of transmitting the service request to the bridge agent and translating the service request into the ICL (col. 5, lines 46-65; col. 15, lines 10-40).

As to claim 3, MARTIN teaches the service request is received from an agent capable of communicating in the ICL (pg. 8, "3rd paragraph).

As to claim 4, MARTIN teaches the agent (helper agent) is independent of the multiple component registry (figure 1).

As to claim 5, FURUSAWA teaches receiving functional capabilities of one or more of the distributed electronic agents; and adding the agent functional capabilities to the facilitator registry (col. 12, lines 53-63). MARTIN teaches the step of determining a second ICL sub-query necessary to accomplish the ICL request for service; selecting from the facilitator registry an agent capable of completing the second ICL sub-query; and delegating the second ICL sub-query

to the selected electronic agent (pg. 7, System Architecture). It would be obvious that the facilitator performs the functionality since the broker is part of the facilitator.

As to claims 6-10, MARTIN teaches the components registered in the component registry can be software-based objects (source agents) (pg. 13). Therefore it would be obvious that the registry is an object service since the objects invoke it. "Official Notice" is taken that JINI, CORBA, and Java are well known object oriented software and therefore obvious that the registry is constructed as such.

As to claim 12, FURUSAWA teaches service provider agents upon installation register with the facilitator advertise table (facilitator registry) (col. 12, lines 53-63). It would be obvious that since agents upon entering the system register with the facilitator registry that the table is periodically updated.

As to claims 39, 14-21, and 23 reference is made to a computer readable medium which corresponds to the method of claims 1-3, 5-10, and 12 and is therefore met by the rejection of claims 1-3, 5-10, and 12 above.

As to claims 40 and 25-28, reference is made to a computer architecture, which corresponds to the method of claims 1 and 7-10 and is therefore met by the rejection of claims 1 and 7-10 above.

As to claim 41, MARTIN teaches the bridge agent is integral with the facilitator (pg. 7, figure 1).

Response to Arguments

4. Applicant's arguments filed 1/6/03 have been fully considered but they are not persuasive. Applicant argues that the combination does not read into the context of the invention of a method of communication and cooperative task completion between a community of distributed electronic agents and at least one other distributed component system using a bridge agent which translates requests/responses to an incompatible protocol. The examiner disagrees. Furasawa teaches a broker agent which analyzes a request message from a regular agent and applies certain conversions to the request message for sending it to the service provider agent which is relevant to the request (abstract). It is obvious to one skilled in the art that if the two agents were compatible than there would be no need for the conversion. Therefore, Furasawa teaches an agent community for communication and task completion between a community of distributed agents and at least one other distributed component system using a bridge agent. Martin also teaches an agent system for communication and task completion (prolog goal) among distributed agents

and at least one other distributed component system (source agents) using a bridge agent (broker agent) which translates requests/responses to an incompatible protocol (translated schema) (pg. 8-9, The Broker Agent; pg. 7, System Architecture). Therefore, the combination adequately teaches the context as disclosed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (703) 305-0439. The examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alvin E. Oberley can be reached on (703) 305-9716. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0286.

ALVIN OBERLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

lab
March 10, 2003